CORE
Metadata, citation and similar papers at core.ac.uk
Provided by Elsevier - Publisher Connector

team (strongly agree-64%; agree-36%) and would recommend their care (strongly agree-75%; agree-25%). At PRE-Tx, 94% of the QS patients preferred to start RT within a day of CTSim compared to 16% of ConvProcess patients. The preference of ConvProcess patients changed significantly compared to QS patients at POST-TX ($p < 0.0001$); 63% of ConvProcess and 96% of QS patients strongly agreed/agreed that given a choice they would prefer to start RT the next day after CTSim. The overall PSS for all patients were not different PRE- and POST-Tx ($p = .8$) and stress levels did not differ significantly between QS and ConvProcess patients ($p = .76$). For both groups, health was the most common stress. The IIRS for ConvProcess patients was 37.6 (PRE-TX) and 39 (POST-TX), and for QS patients was 32 (PRE-TX) and 31.8 (POST-TX); there was no difference in IIRS of ConvProcess and QS patients ($p = .2$). However, subscales of IIRS showed an increase in illness interference with aspects of Physical Recreation and Social relationships for ConvProcess patients compared to QS patients ($p = .03$).
Conclusions: Women undergoing whole breast RT were satisfied with their care and preferred to start RT quickly following their CTSim. Their strongest stressor was health and their stress levels were unchanged at RT completion. Patient involvement and selection of RT timing may impact on their views of how treatment interferes with their lifestyle and social relationships.

182
AGE AFFECTING QUALITY OF LIFE IN RADIATION ONCOLOGY OUTPATIENT CLINIC
Rashmi Koul[1], Richard Tse[2], Erwin Karreman[3], Arbind Dubey[4], Patricia Tai[2]
[1]Cancercare Manitoba, Winnipeg, MB
[2]University of Saskatchewan, Saskatoon, SK
[3]Regina Qu'Appelle Health Region, Regina, SK
[4]University of Manitoba, Winnipeg, MB

Purpose: Quality of Life (QoL) assessment in cancer clinical trials provides a more accurate evaluation of the well-being of individuals or groups of patients and of the benefits and side-effects that may result from medical intervention. Therefore, our first task in dealing with cancer is to regain some sort of equilibrium which will include mental, physical and spiritual aspect of that individual by addressing these very real issues and creating a support system tailored to our patient and their needs.
Methods and Materials: As part of a Dean's summer project a survey was undertaken to facilitate a more complete description of the quality of life experience of patients with histological diagnosis of cancer undergoing external beam radiation as an outpatient at Allan Blair Cancer Centre, Regina, Canada. The questionnaires had two major components; depression and global QOL. The depression was measured by the Zung Self-Rating Depression Scale which is a short self-administered survey to quantify the depression status of a patient.
Results: That data indicated that only the variable of age was a significant predictor. A positive relationship was present indicating higher levels of depression when patients received chemotherapy or narcotics. Breast cancer patients rated quality of life, functional well-being significantly higher than lung cancer patients $p > 0.05$.Breast cancer patients also scored significantly lower on the measure of depression than lung cancer patients $p > 0 .05$.
Conclusions: A significant relationship between the chemotherapy, narcotics use and QOL was found in our study. For clinicians, this means not only demonstrating that such data are clinically useful but also addressing the effect on clinic work flow, constrained resources for data collection and management, reimbursement for their time and effort in monitoring health related QoL.

183
OPTIMAL EXTERNAL MARKER BLOCK PLACEMENT FOR RESPIRATORY MOTION MANAGEMENT IN BREAST RADIOTHERAPY
Leigh Conroy[1], Alexandra Guebert[2], Wendy Smith[1]
[1]University of Calgary, Calgary, AB
[2]Queen's University, Kingston, ON

Purpose: Respiratory motion management is used in breast radiotherapy to reduce dose to cardiac and pulmonary organs at risk or decrease required margins. Varian Real-time Position Management (RPM) is a common tool for gated and Deep Inspiration Breath Hold (DIBH) treatments in breast. The external marker block is typically placed between the xiphoid process and the umbilicus. However, block movement in this location may not be well correlated with the internal chest wall motion. Here, we examine the feasibility of placing the marker block directly on the breast/chest wall to improve the correlation between the target and external marker motion.
Methods and Materials: Three primary concerns are considered: 1) the bolusing effect of placing the marker block in the primary field; 2) amplitude accuracy with block positioning; and 3) correlation between the exterior surface position and internal motion.1) We determine the bolusing effect of the two-dot, six-dot, and 'hippo' (TrueBeam) marker blocks for a 6 MV beam at perpendicular incidence (Gantry 0°) using a Markus ionization chamber. 2) When the marker block is placed on an intact breast, it may tilt in the lateral direction. We investigate the impact of tilt (0° to 50°) on detected motion amplitude of the two-dot and six-dot marker block systems. 3) An in-house edge detection code was used to extract internal chest wall and external surface contours on each frame of weekly during-treatment cine portal images on the medial field from 20 DIBH patients. A population-based correlation study determines the external surface block location that best represents internal chest wall motion.
Results: 1) At perpendicular beam incidence, all three marker blocks doubled the surface dose reading compared to the surface dose with no marker block. This is equivalent to approximately 2.5 mm of bolus. Increasing beam obliquity is expected to increase this bolusing effect. 2) The RPM system overestimated the detected amplitude of the two-dot marker block when the block was tilted laterally: on average by 1 mm at 20°; 2.5 mm at 30°; 5 mm at 40°; and 8 mm at 50°. The detected amplitude when using the six-dot marker block system was unaffected by lateral tilt. 3) Preliminary results using the cine portal image chest wall and surface contours suggest that positioning the marker block at the nipple line best represents central chest wall motion.
Conclusions: Placing the RPM marker block on the breast/chest wall at the nipple line is expected to improve the correlation between the block movement and chest wall motion with a small impact on skin dose. The six-dot marker block system should be used for intact breast, as it is more robust to lateral tilting than the two-dot marker block system. A study of 24 left-sided breast patients using this block placement for DIBH treatments is currently underway at our centre.

184
REPRODUCIBILITY OF A NON-INVASIVE SYSTEM FOR OCULAR IMMOBILIZATION IN ROBOTIC STEREOTACTIC RADIOTHERAPY OF OCULAR MELANOMA
Omar Iskanderani, Dominique Béliveau-Nadeau, Robert Doucet, Geneviève Coulombe, Pascale Deborah, David Roberge
Centre Hospitalier de l'Université de Montréal, Montréal, QC

Purpose: Amongst uncommon primary ocular tumours, choroidal melanoma represents the most common diagnosis. Our preferred treatment for juxtapapillary tumours has been stereotactic radiotherapy using the Cyberknife radiosurgery system. We aim to describe our immobilization system and quantify its reproducibility.
Methods and Materials: Patients treated for choroidal melanoma were identified in our radiosurgery database. Patients were imaged at CT simulator with an in-house system which allows visual monitoring of the eye as the patient fixates a small target. All patients were re-imaged at least once prior to and/or during radiotherapy. The patients were treated on the Cyberknife system, 60 Gy in 10 daily fractions, using skull tracking in conjunction with our visual monitoring system. In order to